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T070210

1. Location of Reading Room:	2. Expected Release Date:
Idaho Operations Public Reading Room 1776 Science Center Dr. University Place Idaho Falls, ID 83403	March 20, 1995

3. Document Type:

[ ] Letter
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[X] Other (Specify)
PRESS RELEASE

a. If letter or memo:
To:
From:

Subject: AEC SCHEDULES DELIBERATE REACTOR DESTRUCT TEST FOR NOVEMBER

b. If report:
Title:

4. Document Date:	c. If publication:
For release September 17, 1965	Name: Volume: Issue:

5. Summary (2-3 lines indicating the major subject(s) of the document):

SNAP-2/SNAP-10A type reactor is scheduled to undergo destructive testing during November, 1965 in the IET facility at the AEC's NRTS. Prior two deliberate reactor destruct tests are referenced. Additional planned SNAPTRAN tests are discussed.

6. Name and telephone number of person completing form:	7. Organization:	8. Date:
Burton R Baldwin (208) 525-0203	Lockheed Idaho Technologies Co.	March 15, 1995

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HUMAN RADIATION EXPERIMENTS

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COLLECTION NAME	SYSTEM FOR NUCLEAR AUXILIARY POWER TRANSIENT (SNAPTRAN)
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ADDITIONAL LOCATION INFORMATION	THE BOX IS STORED AT THE FEDERAL RECORDS CENTER IN SEATTLE, WA. INEL RECORD STORAGE RECEIPT NUMBER IS D-1709
FILE TITLE	4-2-1-5-36 SNAP PRESS RELEASES, PRESS RELEASE FOR REACTOR DESTRUCT TEST FOR NOVEMBER
TOTAL PAGES	
BATE NUMBER RANGE	
DOCUMENT NUMBER RANGE	

HEI FORM DOCUMENT NO.: T070035
DOCUMENT NO.: T070210
DOCUMENT TITLE: INFORMATION FOR PRESS AND RADIO: AEC SCHEDULES DELIBERATE REACTOR DESTRUCT TEST FOR NOVEMBER
CROSS REFERENCES:
ITEMS OF INTEREST:

DOE/HRE-ID-044

U. S. ATOMIC ENERGY COMMISSION
Idaho Operations Office
Idaho Falls, Idaho

INFORMATION FOR PRESS AND RADIO
No. 63-11 (General)
Telephone JA 2-6640, Extension 217

FOR RELEASE
(Tuesday, September 17, 1963)

AEC SCHEDULES DELIBERATE REACTOR DESTRUCT TEST FOR NOVEMBER

An aerospace reactor was installed this week in an Idaho test facility in preparation for the first of a new series of reactor destruct tests. The reactor, of the SNAP-2 and SNAP-10A,type, will undergo the first destruct test in November at the Atomic Energy Commission's National Reactor Testing Station near Idaho Falls, Idaho. The test will be conducted in the Initial Engineering Test facility.

Purpose of the tests is to obtain data for assessing the safety of nuclear-powered space devices. The data will include the amount of energy released in accidents involving the space devices, and the physical, chemical, and nuclear phenomena associated with the accidents. The data will also be used to check the validity of the results of previous theoretical and analytical studies made of such accidents.

In a previous test at Idaho last November, a reactor was deliberately destroyed to obtain data on what design features enhance a reactor's tendency, when it overheats, to shut itself down automatically. In 1954, a reactor experiment in Idaho was de..troyed deliberately to get data on the ability of a water-cooled and -moderated reactor, if allowed to get out of control, to shut itself down before excessively high temperatures would destroy it.

The new test series, designated SNAPTRAN (SNAP Transient), will simulate conditions of several conceivable, though unlikely, accidents that could destroy a reactor of the SNAP-2/10A type. The conditions to be investigated are those that conceivably could occur during launch, by premature criticality (start-up) from inadvertent movement of the control drums (beryllium-

(more)

reflecting mechanisms for controlling reactor operation), or by accidental criticality should the reactor fall into water after failure to reach orbit.

The tests will be conducted by Phillips Petroleum Company, the AEC's prime contractor for nuclear safety testing. The AEC's prime contractor for design and construction of the SNAP-2 and SNAP-10A reactor systems is Atomics International.

The tests will be conducted without hazard to the general public or to employees at the testing station. Besides the operating procedure safeguards, the reactors will not have accumulated a buildup of highly radioactive fission products that result from extended reactor operation.

The program for the test series will involve power excursions, including destruct tests, using a beryllium neutron reflector--the normal way of starting up SNAP-2/10A reactors--and water reflection of neutrons--the kind of reactor startup that could occur should the reactor fail to reach orbit and fall into water.

Of principal interest is the water-immersion destruction test scheduled for November, subject to weather conditions needed to insure maximum safety. The SNAP-2/10A reactor will be stripped of its beryllium reflector but will be surrounded, for control purposes, by a neutron absorbing sleeve. Removal of the sleeve under water is expected to induce immediate reactor core destruction through water reflection of neutrons, thus simulating the maximum credible accident that could occur in water.

The series of SNAPTRAN tests involving a reactor with a beryllium reflector is scheduled to begin early next year. The testing of this reactor will include excursions of increasing severity ending with a destruct test.

A third series of SNAPTRAN tests is scheduled to begin after the beryllium destruct test and will involve extensive physics testing of a second beryllium-reflected SNAP-2/10A reactor at high temperatures. Another destruction test may climax this series.

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1.	Mr. E. Wildson	Manager
2.	~~Booth~~ DM	9/16
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FROM	DATE
M. C. Corbett	9-16-63

REMARKS

Previously cleared by RD and Mr. Kaufmann

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